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BUSHWACKER ×

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THE BUSHWACKER

Representatives of the Rural Electrification Administration were invited to attend a demonstration of the Bushwacker, a machine for clearing power line rights-of-way. The demonstration was held on December 20, 1949, at a place west of Woodridge, Virginia, where regrowth of brush was being cleared, from a 30-mile section of the Virginia Electric Power Company transmission line extending south from Occoquan, Virginia. The Bushwacker is a remarkable machine, as to the principle of operation and the appearance of land on which it has been used. Its use for clearing the rights-of-way of REA borrowers should be investigated. Members of REA attending the demonstration were John Atkinson, Chris Schultz and Clifford Waldron.

The Bushwacker is a machine manufactured by Bushwacker, Inc., of Red Bank, New Jersey. Future production will be by American Steel Dredge Company, Inc., Fort Wayne, Indiana. The present model has evolved from experimental models which were equipped with less horsepower. It consists of an International Harvester Company model TD-9, 39-hp crawler tractor which has been modified to carry a flail assembly, driven at a high speed by a 168-hp General Motors Diesel engine using a multiple V-belt.

The frame, supporting the flail assembly which is mounted crosswise at the front end and the engine at the rear, is supported near the longitudinal center. The front end can be lowered and raised hydraulically to put the flails at the working position. The controls for raising and lowering the flails, with the other controls are housed in the operator's cab mounted on the tractor frame.

The flail assembly consists of 20 chrome-manganese steel castings attached by chain links to the belt-driven drum and is partially enclosed within a steel housing which assists in breaking up the material. Solid wheels at the front end of the frame regulate the height of the cut made by the flails. The cut is six feet wide.

The flail heads revolve at a speed of 9900 feet per minute. Direction of rotation is forward at the lower part of the assembly. Due to this speed, the action on the brush or other plants is to break it into small pieces and mix it with a thin layer of the top soil, leaving it on top of the cleared land. The soil is in condition for seeding, providing it is not too wet when the work is done.

The growth being cleared consisted of pine, averaging five feet in height and from one to two plants per square yard. The right-of-way had been originally cleared by bulldozer, which left few stumps or logs. No work on such material was observed, but the action of the machine on a few trees four or five inches in diameter was observed. The shredding action on the entire portion of the trees above ground was similar to that on ordinary brush. Any stubs left above the surface of the ground were shredded so that little resprouting could occur unless from the roots. Many smaller plants were pulled out by the roots.

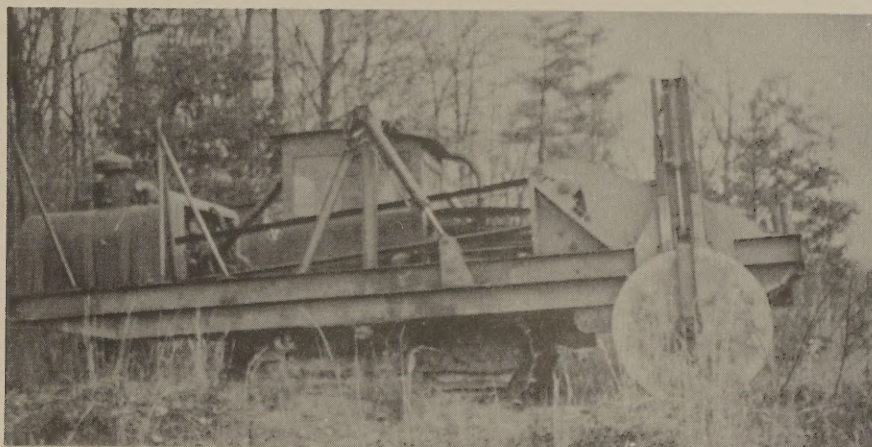
The work is done on as long a section of right-of-way as possible. The clearing observed was done on a strip about 1000 feet long, the width being 100 feet. The first cut was made around the section and the finishing cut down the center. The work observed was done at a speed of about three miles per hour. Heavier growth is cleared at 1-1/2 miles per hour.

A film is available to interested groups, showing the Bushwacker in operation. At the showing of this film at the Department of Interior on December 16, 1949, Mr. Karl Swertfeger of Bushwacker, Inc., stated that the most serious obstacles to the machine are solid stumps and large rocks which could break some of the flails. Worn flails are renewed by building up the faces with suitable welded material. The machine is moved from one site to another on a low-boy trailer. Mr. Swertfeger does not consider the machine economical for clearing trees larger than four or five inches in diameter.

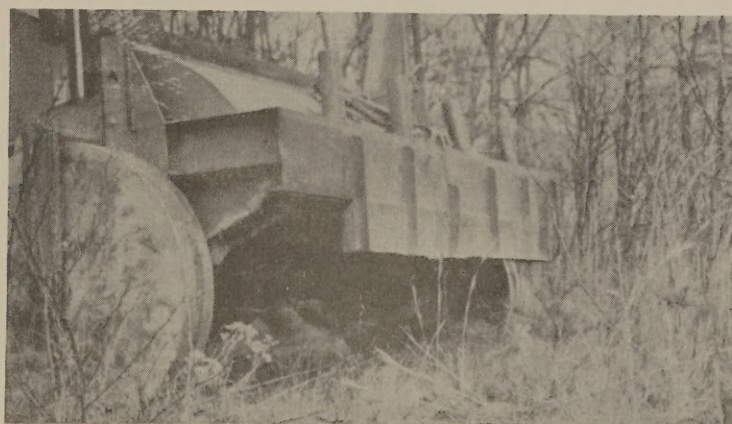
The rate of clearing is from two to six acres per day, depending on the brush conditions. The two engines use from 12 to 14 gallons of fuel per hour. About two hours of servicing are required per day. The present price of the machine is from \$15,000 to \$18,000. Contract work done by the company has ranged from \$30 to \$90 per acre. The Bushwacker has been used in New Jersey where the growth was hardwood, in Virginia where the growth was pine mixed with hardwood, and in Florida on palmettoes and myrtle.



**Bushwacker In Operation
On Virginia Electric
Power Company Right-of-Way**



View Of Right Side Of Bushwacker



**Front End Of Bushwacker'
With Flails In Motion**

